Engineering, Architecture and Design

Series:

- **GS-801 - General Engineer**
- **GS-802 - Engineering Technician**
- **GS-803 - Safety Engineer**
- **GS-804 - Fire Protection Engineer**
- **GS-807 - Landscape Architect**
- **GS-808 - Architect**
- **GS-810 - Civil Engineer**
- **GS-819 - Environmental Engineer**
- **GS-828 - Construction Analyst**
- **GS-830 - Mechanical Engineer**
- **GS-850 - Electrical Engineer**
- **GS-896 - Industrial Engineer**
- **GS-1008 - Interior Designer**

These career series cover non-supervisory, supervisory, and managerial positions that perform a wide range of duties related to building, renovating, repairing, maintaining, and managing Department of State facilities domestically and abroad. The facilities accommodate personnel and programs of the Department and other U.S. Government agencies engaged in the conduct of foreign affairs at posts throughout the world and at the Department's domestic facilities.

The Office of Overseas Buildings Operations administers approximately 12,000 properties overseas in more than 250 locations in 160 countries. The size of the building units vary from small consular office buildings and staff apartments, large office and consular office buildings, to large embassy office buildings and entire compounds. The Bureau of Administration is responsible for the Department's approximately 100 domestic facilities. These include the Headquarters Harry S Truman Building, all State Department Annexes, field offices and other facilities located throughout the United States. Projects range from minor improvement and major Maintenance and Repair to construction of single buildings and compounds. Project costs range from several thousand dollars to over 100 million dollars each.

The work is performed primarily by Architects, Engineers, Construction Analysts, and Interior Designers who frequently work together on projects. Nearly all positions require a bachelor's degree from an accredited school of engineering, architecture or interior design. Many positions require state licensing and completion of a certain number of continuing education credits every year or two. These credits may be obtained through completion of courses, seminars, workshops, formal university classes, self-study courses or other technology-based training. Please note that a great deal of technical training for employees in these series is available through professional associations and private vendors. After the senior level continuum, we have included a list of technical training areas and training resources. We encourage you to go to the websites for more information on the courses, seminars, and conferences offered.

The work entails:

Planning - Effective planning for facilities is critical to the Department of State's overall diplomatic readiness. This ensures that the Department's building program successfully meets the goal of providing safe, secure, and functional facilities. Through the planning process, project requirements are identified, justified and ranked by importance. In addition, a budget and schedule is developed for each project.

Collection, analysis, and reporting of data is critical to the accuracy of the project identification and selection process. The data is also key to the production of the project's plan. This summary is a collection of all data pertaining to the project. Its completion effectively marks the end of the planning of a specific project and its handoff to the project development and project execution phases.

Project Development - During this phase, information acquired in the planning phase of a project is used to develop a design and construction package that will be used for project execution. This package defines the design and technical requirements, along with cost estimates and schedules.

The initial task in the project development phase is the concept design. This effort defines the basic architectural, engineering and interior planning parameters of the project through the use of programming and planning data, and information from various analyses. This concept design is usually presented through the use of plans, elevations, and sections. Additional graphic information may be necessary depending on the complexity of the project. The information in the concept design phase supports the development of an independent government cost estimate.

This concept design phase is followed by design development. This effort further defines the architectural, engineering and interior components of the project through the use of detailed design drawings and specifications. During this phase, a series of technical and design compliance reviews ensure constructibilty code compliance. In addition, value engineering of the project allows an opportunity to refine the project so that it is functional, yet cost effective.

The scheduling of a series of project development goals is usually done as soon as possible, creating a timeline for the project. This timeline will indicate critical path milestones that will help the project stay on schedule. After the development of the timeline, the project moves into the project execution phase.

Project Execution - This phase encompasses the procedures followed to award the completed design as portrayed in contract

documents completed during the Project Design Phase. It also includes procedures to inspect and test the construction work in progress. Government architects, engineers and interior designers are the technical experts, who advise the contracting officers on the compliance of bids and proposals relative to the government's Request for Proposal or Invitation for Bid packages.

After the contract is awarded, the architects, engineers and interior designers ensure compliance of the construction work with the contract via construction management methodologies such as inspections and testing. The conclusion of the project execution phase comes when the government officially accepts the work. This acceptance marks the end of project execution, and the beginning of the acceptance and operations and maintenance phases for a project.

In more detail, the first aspect of project execution is the tendering of a construction contract award, or in some cases a design-build contract in which both the design and construction of a building project are awarded to a firm that possesses both design and construction capabilities. The traditional method of project delivery is the design-bid-build process. Regardless of which method is used to make an award, a standard process is followed. It begins with contracting support in which contracting officers and specialists request proposals or solicit bids, evaluate proposals, negotiate with offerors, award contracts and manage the business between private sector firms and the government. Architects, engineers and interior designers support this process by preparing Independent Government Cost Estimates and Technical Analyses that compare and contrast proposals with the Independent Government Estimates and Statements of Work. They also assist with negotiating the contracts.

After the contract is awarded, the architects, engineers, and interior designers provide technical contract administration services on behalf of the contracting officer in their capacity as Contracting Officer's Representatives. These services involve construction management techniques used to ensure the contractor's planning and work is in compliance with the contract's scope, schedule, and budget. During the construction phases, the architects, engineers and interior designers participate in management meetings that are held to evaluate the quality and progress of the work and discuss milestone schedules. Final acceptance marks the conclusion of the project execution phase.

Acceptance - This phase entails developing a comprehensive commissioning plan

at the outset of construction, and managing the commissioning activities until such time as the facilities are fully functional, accredited, and accepted by the government. Commissioning activities include monitoring contractor quality control programs to assure compliance with contract provisions, ensuring required tests are accomplished and results documented, and coordinating technical support activities to ensure that inspection and acceptance of the work is accomplished. After acceptance of the work, commissioning activities include ensuring the contractor provides operation and maintenance plans, spare parts, building system data and training as well as closing out and archiving project records, providing assistance and guidance during the warranty period for correction of deficiencies, and conducting after occupancy evaluations.

Operations and Maintenance (O&M) - After the facilities have been constructed or acquired, the focus is then on the processes used to operate and maintain the facilities. These processes are continuous throughout the facility life cycle from commissioning to decommissioning. The initial work involves the development of the maintenance work plan for the facility, which is initiated during, and in conjunction with, the project development phase and updated throughout the project execution and acceptance phases. The work plan is reliability-based, incorporating the optimum mix of proactive, reactive, preventive and condition monitoring maintenance strategies to maximize facility function and prevent building failures.

The next step is to determine the minimum resources required to actively operate and maintain the facility based on the plan. Availability of resources are considered in the O&M plan. This step is followed by managing the utilization of the resources to operate and maintain the facilities. These activities include preventive maintenance scheduling, data management in the computerized maintenance management system (CMMS), failure analysis and system recovery, system redesign and reconfiguration. Activities also include condition monitoring data collection analysis, environmental inspection and remediation, condition assessment, spare/repair parts acquisition and stock management, tool/equipment acquisition and inventory management, as well as personnel and contract administration, training, and budget management.

The last O&M function in a facility lifecycle is decommissioning, where the facility is either restored to an acceptable condition for sale or return to the landlord or the facility is stripped of salvageable items for demolition.

Technical Competencies

The Department's subject matter experts have identified the following specific technical competencies to assist employees and managers in determining competency levels and staff development needs.

Data Gathering and Analysis - Ability to collect information through surveys, interviews, and research and to analyze this data for use in planning, design and construction.

Design - Demonstrates creative and innovative abilities to obtain specified functional and operational performance of structures, buildings, and building systems. Ability to develop documentation, detailed instructions, drawings or specifications to inform others about how structures, buildings, and building systems are to be constructed, modified, maintained or used.

Engineering - Ability to apply the theories and principles of science and mathematics to the design, planning, scheduling, and supervision of the construction or modification of buildings. Knowledge of equipment, tools, and mechanical devices and their use in the construction and maintenance of buildings. Ability to solve a wide variety of practical problems related to building planning, programming, construction, renovation, operations and maintenance.

Specialized areas include:

- ***Civil Engineering:*** Ability to design, develop and evaluate site water distribution, waste water collection, treatment and disposal, road design, grading, draining, storm water management, and erosion and sediment control.

- ***Electrical Engineering:*** Ability to design, develop and evaluate RF Shielding/technical security and electrical engineering systems and maintain state of-the-art knowledge in these fields.

- ***Environmental Engineering:*** Knowledge of, and ability to apply, environmental laws, regulations and policies to ensure compliance. This includes specific knowledge required by the Clean Air Act, Safe Drinking Water Act, and indoor air quality standards. Ability to design systems without ozone depleting substances, and conduct environmental site assessments.

- ***Fire Protection and Safety Engineering:*** Ability to design, develop and evaluate fire protection systems for new and existing facilities. Ability to ensure the features of fire protection work together as a system to combat fire. The features encompass structural fire resistance, detection/alarm systems, suppression, egress systems, smoke control, and the limitation of combustibles.

- ***Industrial Engineering:*** Ability to plan, design, analyze, and improve integrated systems of employees, material, and equipment to produce a product or render a service. Knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design to specify, predict and evaluate the results to be obtained from such systems.

- ***Mechanical Engineering:*** Ability to design, develop and evaluate elevator, plumbing, heating, ventilating, air conditioning, refrigeration, fuel distribution, environmental security, energy conservation, and automatic control systems.

- ***Security Engineering:*** Ability to design, a series of integrated tasks to successfully develop, and evaluate physical security measures to safeguard personel, prevent unauthorized access to equipment and facilities, and to safeguard against sabotage, damage, and theft.

- ***Structural Engineering:*** Ability to apply structural engineering principles and methods in the analysis, design, construction, maintenance, operation, acquisition, and evaluation of building structures.

- ***Technical Security Engineering:*** Ability to design, develop and evaluate electronic security systems that are used to safeguard buildings, personnel, and information.

Estimating - Ability to estimate the requirements for labor, materials, or products, including establishing quantities, time, costs or materials needed to accomplish a construction project.

Inspection and Investigation - Ability to inspect work to ensure compliance with specifications, approve quality of materials and advise client and construction personnel. Ability to diagnose building systems, inspect structures, or test materials to identify the causes of failures or other problems.

Interior Design - Knowledge of the science and art of blending aesthetics, function, space and materials in the design, construction or improvement of building interiors. Ability to provide interiors which are responsive to particular human activities and needs, have aesthetic appeal, (i.e., form, colors and textures) and are economical to acquire and operate.

Problem Solving - Ability to identify and analyze problems, distinguish between relevant and irrelevant information to make logical decisions, and provide solutions.

Project Management - Ability to apply knowledge, skills, tools, and techniques to project activities. It encompasses the planning, scheduling, and controlling of a series of integrated tasks to successfully achieve stakeholder objectives. It involves balancing the competing demands of scope, time, cost, and quality; stakeholders with differing needs and expectations; and identified requirements (needs) and unidentified requirements (expectations).

Technical Reporting - Ability to present technical information to non-technical personnel in a clear, articulate manner.

Value Engineering - Ability to analyze the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life cycle cost consistent with required performance, reliability, quality, and safety. Shows knowledge of applicable public law and OMB circulars.

Engineering, Architecture and Design Basic Level

At the basic level, you will learn and apply fundamental policies and procedures to perform introductory and routine activities related to the design, construction, renovation, repair, operations or maintenance of DoS facilities. You will acquire and apply knowledge of the basic principles and methods of your specific functional area obtained through classroom and on-the-job training or through performing entry level work or entry level developmental assignments.

You will assist other higher-graded employees or perform limited, independent work related to small, less complex projects or limited portions of larger projects. In addition, your training and development will focus on acquiring basic leadership, interpersonal, communication, and information technology skills.

	Recommended Courses	Suggested Courses
Basic Level	**Orientation** PN125 Orientation for Civil Service Employees (for new State Department employees) PS800 Cyber Security Awareness (distance learning; required to use OpenNet Plus) **Technical** **Diplomatic Security Training Center (DSTC)** SEBT 10500 Technical/Physical Security **FSI** PA178 Becoming a Contracting Officer's Representative or PA296 How to Be a Contracting Officer Representative (distance learning)	**Technical** Select courses based on your series from the list of technical training areas and training resources following the senior level training continuum. Participate in the OBO Design and Engineering Continuing Education Program (For information, visit http://obo.state.gov/pedeadb/conted.htm) **FSI** MQ913 Security Overseas Seminar for Temporary Duty Personnel PN113 Introduction to Working in an Embassy PA375 ILMS Ariba Requester (distance learning)

	Recommended Courses	Suggested Courses
Basic Level	**Graduate School - U.S. Department of Agriculture, ESI, Management Concepts (MCI), US Army Corps of Engineers (USACE), Defense Acquisition University (DAU)** Introduction to Government Contracting (USDA or ESI) or Introduction to Federal Contracting (MCI) or Federal Contracting Basics (ESI) Architect-Engineer Contracting (USACE or DAU) or Architect-Engineering Contracting (MCI) Construction Contracting (DAU, MCI, or ESI) or Construction Contract Administration (USACE) Integrating Cost and Schedule (MCI) or Scheduling and Cost Control (ESI classroom or distance learning) Mastering Project Requirements (MCI) or Requirements Management (ESI) or Specifications for Construction Contracting (USACE) Design-Build Contracting (ESI) or Design-Build Construction (USACE) **Communication/Interpersonal*** PA143 Customer Service Training PK240 Effective Speaking and Listening Skills **Leadership and Management**** PT129 Team Building **Information Technology*** PS218 OpenNet Plus and the Internet PS280 Introduction to MS Project 2000 PS284 Cable Express for End Users PS432 MS Word 2003 Level One PS470 MS Excel 2003 Level One PS498 Intro to MS Outlook 2003 MS Internet Explorer 5.0 End User (distance learning)*** MS Office 2000 (distance learning)*** AutoCad (private vendor) Primavera (private vendor)	**Graduate School, USDA (USDA), ESI, Management Concepts (MCI), US Army Corps of Engineers (USACE), Defense Acquisition University (DAU)** Select courses from the following based on your series and work assignments: Simplified Acquisition Procedures (USDA or MCI) (DAU distance learning) Cost Estimating for Technical Personnel (MCI) or Cost Estimating Basics (USACE) Construction Safety (USACE distance learning) O&M Contracts (USACE) Master Planning (USACE) College or University Training: Courses in area of specialization **Communication/Interpersonal*** PK143 Proofreading PK146 Job Savvy: Skills for Workplace Success PK159 Drafting Correspondence **Leadership and Management**** PT251 Productively Managing Stress **Information Technology*** PK195 Travel Preparation and Regulations (distance learning) PK205 Travel Regulations and Vouchers PS440 MS PowerPoint 2003 Level One PS450 MS Access 2003 Level One Take some distance learning courses through FSI's FasTrac Program. For a course catalog or to enroll, visit http://fsi.state.gov/fastrac on the OpenNet.

	Recommended Courses	Suggested Courses
Basic Level	**Recommended Rotational Assignments** Domestic or Overseas Construction Site (2 weeks minimum) Select from among the following depending on focus: Office of Overseas Buildings Operations OBO/PD Planning and Development Office/ Divisions OBO/REPM - Real Estate and Property Management Office/Divisions OBO/PE - Project Execution Office/Divisions OBO/OM - Operations and Maintenance Office/ Divisions Bureau of Administration A/OPR/FMS - Office of Facilities Management Services/Divisions A/OPR/SP/P - Office of Special Projects Staff Assignment length varies according to needs	**Suggested Developmental Activities** Read your Bureau Performance Plan and the Department's Strategic Plan Read professional journals/magazines Shadow a higher graded employee for a few days Read laws, regulations, and other guidance applicable to your functional area (e.g. 6 FAM, 12 FAM, 12 FAH, Architectural and Engineering Design Guidelines, Standard Embassy Design, Division policies and procedures) Visit the Career Development Resource Center As time permits: Attend workshops/seminars in the local area on professionally relevant topics (see attached) Participate in activities of professional nonprofit societies and associations (see attached) Visit websites of professional associations (see attached) Go on informal visits (individually or with your supervisor or co-workers) to meet counterparts/ customers in other federal agencies/ organizations (e.g. GSA, DoD, NASA, Commerce, Agriculture, CIA, FBI)

*Employees who are located outside of the Washington, D.C. metropolitan area may find it more cost effective to take equivalent courses from the Graduate School, USDA, colleges or universities or private vendors in their local area through the FSI External Training Program. Contact the FSI Registrar's Office at (703) 302-7145.

** For a more comprehensive list of courses, see *The Leadership and Management Training Continuum* http://fsi.state.gov/fsi/lms/docs/LMSContinuum.pdf.

*** Distance Learning Courses. For more information, visit http://fsi.state.gov/fsi/sait/dl.asp.

Engineering, Architecture and Design Mid Level

At the mid-level, you will perform progressively more difficult work in your functional area and demonstrate proficiencies as a fully functional and experienced professional. You will work on larger, more complex projects and expand your activities related to large projects. You will take intermediate and advanced technical courses that will aid you in resolving complex issues related to the design, construction, renovation, repair, operation or maintenance of the Department's domestic and overseas facilities. Your training will also focus on increasing your information technology skills.

Since you may advance to a team leader or supervisory position, courses to enhance your leadership, management, communication and interpersonal skills are essential.

	Recommended Courses	Suggested Courses
Mid-Level (See also courses at earlier levels if not yet taken)	**Technical**	**Technical** Select courses based on your series from the list of technical training areas and training resources following the senior level training continuum. Participate in the OBO Design and Engineering Continuing Education Program (For information, visit http://obo.state.gov/pedeadb/conted.htm)
	FSI PA173 Contracting Officer Representative Update PA215 Principles of Appropriation Law PT208 Managing State Projects	**FSI** PA296 How to Be a Contracting Officer Representative (distance learning) PA361 ILMS Ariba Approver (distance learning) PA374 ILMS Ariba Budget and Financial (distance learning) PP204 Congressional Relations
	Graduate School, USDA (USDA), ESI, Management Concepts (MCI), US Army Corps of Engineers (USACE), Defense Acquisition University (DAU) Evaluating a Contractor's Performance (MCI) Task Order Contracting (ESI) Project Risk Management (MCI) or Risk Management (ESI classroom or distance learning)	**Graduate School, USDA (USDA), ESI, Management Concepts (MCI), US Army Corps of Engineers (USACE), Defense Acquisition University (DAU)** Select courses from the following based on your series and work assignments: Contracting by Negotiation (USDA) Negotiating Construction Contract Modifications(USACE) Administration of Cost-Reimbursement Contracts (MCI) or Managing Cost Reimbursement Contracts (ESI) or

	Recommended Courses	Suggested Courses
Mid-Level (See also courses at earlier levels if not yet taken)	Managing Multiple Projects and Geographically Dispersed Projects (MCI) or Managing Global Projects (ESI)	Cost Reimbursable Contracts (USACE) Estimating for Construction Modifications (USACE) Conceptual Aspects of Value Engineering (DAU) or Value Engineering (USACE) O&M Contracts Advanced (USACE) Preparing Performance-Based Statements of Work (ESI) or Writing Performance Work Statements (MCI) or Writing Performance-Oriented Statements of Work (USDA) Performance-Based Service Contracting (MCI) or Best Practices in Performance-Based Service Contracting (ESI) Service Contract Act Overview (MCI) Construction Quality Management (USACE) or General Construction - QV (USACE) or Managing Project Quality (MCI) or Quality for Project Managers (ESI classroom or distance learning) Incentive Contracts (MCI) Best Value Source Selection Using Tradeoffs (MCI) Using Oral Presentations in Source Selection (MCI) Mastering Technical Challenges and Issues (MCI distance learning) or Rapid Assessment and Recovery of Troubled Projects (ESI) Management of Complex Projects (ESI) Contract Closeout (MCI) Earned Value in Project Management (MCI) Federal Contract Law (MCI) or Government Contract Law (ESI or USDA) Aligning Project Management with Corporate Strategy (ESI) **FasTrac Distance Learning Project Management Courses** SkillSoft Professional Project Management Professional Project Management Fundamentals* Project Procurement Planning* Project Scope Management* Project Cost Management* Project Human Resource Management* Project Quality Management* Project Communication Management* Project Integration Management* Project Risk Management*

	Recommended Courses	Suggested Courses
Mid-Level (See also courses at earlier levels if not yet taken)	**Communication/Interpersonal*** PA123 Managing Customer Service PK241 Writing Effective Letters and Memos **Graduate School, US Department of Agriculture (USDA)** Briefing Techniques or Speaking with Confidence **Leadership and Management**** PK245 Basic Leadership Skills** PK246 Employee Relations PP501 International Negotiation: Arts and Skills PT107 EEO/Diversity Awareness for Managers and Supervisors PT207 Intermediate Leadership Skills** PT215 Team Leadership Workshop PT216 Seven Habits of Highly Effective People PT253 Negotiation Skills For Managers **Information Technology*** PS433 MS Word 2003 Level Two PS471 MS Excel 2003 Level Two MS Office 2000 (distance learning)*** Microsoft Visio 2000 (distance learning)***	* PMBOK 2000 aligned – courses for PMI certification NetG Project Management Essentials Series Project Management Series Advanced Project Management Series Project Leadership Series College or University Training: Courses in area of specialization **Communication/Interpersonal*** PD520 Visual Aid Basics **Graduate School, US Department of Agriculture (USDA)** Clear Writing Through Critical Thinking Writing for Results **Leadership and Management**** PT205 Performance Management Seminar PT206 Managing Change PT211 Coaching PT212 Creative Problem Solving PT214 Managing Conflict Productively PT217 Running Effective Meetings Workshop PT218 Leading in a Diverse Workforce PT252 Managing Up: Working Effectively With Your Manager **Information Technology*** PS441 MS PowerPoint 2003 Level Two PS451 MS Access 2003 Level Two PS418 Web Development Fundamentals Microsoft Web (distance learning)*** Web End-User Publisher (distance learning)*** Take some distance learning courses through FSI's FasTrac Program. For a course catalog or to enroll, visit http://fsi.state.gov/fastrac on the OpenNet.

	Recommended Courses	Suggested Courses
Mid-Level (See also courses at earlier levels if not yet taken)		**Suggested Developmental Activities** Read your Bureau Performance Plan and the Department's Strategic Plan Read professional journals/magazines Shadow an OBO or A/OPE Office Director or Division Chief for a week Read laws, regulations, and other guidance applicable to your functional area (e.g. 6 FAM, 12 FAM, 12 FAH, Architectural and Engineering Design Guidelines, Standard Embassy Design, Division Policies and Procedures) Visit the Career Development Resource Center Apply for a Career Development Program such as the USDA Executive Leadership Program for Mid-Level Employees or a Congressional Fellowship**** Apply for a long-term training opportunity or an OPM Residential Seminar**** Apply for the Civil Service to Foreign Service Hard-to-Fill Program, a TDY, or excursion tour to an overseas embassy or consulate**** As time permits: Attend workshops/seminars in the local area on professionally relevant topics (see attached) Participate in activities of professional nonprofit societies and associations (see attached) Visit websites of professional associations (see attached) Go on informal visits (individually or with your supervisor or co-workers) to meet counterparts/customers in other federal agencies/organizations (e.g. GSA, DoD, NASA Commerce, Agriculture, CIA, FBI)

*Employees who are located outside of the Washington, D.C. metropolitan area may find it more cost effective to take equivalent courses from the Graduate School, USDA, colleges or universities or private vendors in their local area through the FSI External Training Program. Contact the FSI Registrar's Office at (703) 302-7145.

** For a more comprehensive list of courses, see *The Leadership and Management Training Continuum* http://fsi.state.gov/fsi/lms/docs/LMSContinuum.pdf. Please note that PK245, Basic Leadership Skills, is a mandatory course for GS-13 employees.

*** Distance Learning Courses. For more information, visit http://fsi.state.gov/fsi/sait/dl.asp.

**** More information follows after this section on *Training for Specific Series and Job Functions*

Engineering, Architecture and Design Senior Level

At the senior level, you will apply your professional knowledge and skills in your functional area to perform difficult, complex projects involving multiple programs, organizations, and issues related to DoS facilities.

You will provide expert information and advice to top management in the bureaus or Department. Your training and development will focus primarily on advanced technical, leadership, management, and communication skills.

	Recommended Courses	Suggested Courses
Senior Level (See also courses at earlier levels if not yet taken)	**Technical** **FSI** PP204 Congressional Relations PT209 Executive Overview to Managing State Projects **Communication/Interpersonal*** **Graduate School, US Department of Agriculture (USDA)** Advanced Briefing Techniques **Leadership and Management**** PT133 Senior Executive Threshold Seminar ** PT209 Managing State Projects PT210 Advanced Leadership Skills** PT213 Starting Right: A Seminar for Program Directors PT221 Four Roles of Leadership PT224 Influence By Design For GS-15 and above: PT300 Leader as Facilitator PT301 Appearing Effective in the Media	**Technical** Select courses based on your series from the list of technical training areas and training resources following the senior level training continuum. Participate in the OBO Design and Engineering Continuing Education Program (For information, visit http://obo.state.gov/pedeadb/conted.htm) **FSI** PP515 Advanced Negotiations: Solving Negotiation Problems **Communication/Interpersonal*** PY126 Speechwriting and Presentation Skills **Leadership and Management**** PD529 Strategic Planning and Performance Measurement (distance learning) PT218 Leading In A Diverse Workforce

	Recommended Courses	Suggested Courses
Senior Level (See also courses at earlier levels if not yet taken)	PT302 Testifying Before Congress PT303 Crisis Leadership PT304 Deputy Assistant Secretary as Leader PT305 Executive as Coach and Menter	General Services Administration (GSA) STAR (Strategic and Tactical Advocates for IT Results) - A one-week residential seminar focusing on program and project management, leadership, security, technology, government and capital planning.
	Information Technology* Courses not taken at the mid-level as desired	**Information Technology*** Courses not taken at the mid-level as desired Take some distance learning courses through FSI's FasTrac Program. For a course catalog or to enroll, visit http://fsi.state.gov/fastrac on the OpenNet.
	Recommended Rotational Assignments Select from among the following: GSA - General Services Administration USACE - U.S. Army Corps of Engineers NAFAC - Navy Facilities Engineering Command AF - Air Force Headquarters, Civil Engineering NASA Bureau Executive Office Assignment length varies according to needs	**Suggested Developmental Activities** Volunteer for a Departmental Task Force Attend an annual professional conference (see attached) Apply for a Career Development Program such as the USDA Executive Potential Program, a Congressional Fellowship, or the Council for Excellence in Government Fellows Program*** Apply for a long-term training opportunity or an OPM Residential Seminar*** Apply for the Civil Service to Foreign Service Hard-to Fill Program, a TDY, or excursion tour to an overseas embassy or consulate***

*Employees who are located outside of the Washington, D.C. metropolitan area may find it more cost effective to take equivalent courses from the Graduate School, USDA, colleges or universities or private vendors in their local area through the FSI External Training Program. Contact the FSI Registrar's Office at (703) 302-7145.

** For a more comprehensive list of courses, see *The Leadership and Management Training Continuum* http://fsi.state.gov/fsi/lms/docs/LMSContinuum.pdf. Please note that PT207, Intermediate Leadership Skills, is a mandatory course for GS-14 employees. PT210, Advanced Leadership Skills, is a mandatory course for GS-15 employees. PT133 Senior Executive Threshold Seminar is a mandatory course for new Senior Executive Service (SES) employees.

*** More information follows after this section on *Training for Specific Series and Job Functions*

Technical Training Areas

Acoustical Engineering

Architectural Design Practices and Standards (Aesthetics)

Architectural Engineering

Blast

Building Codes

Civil Engineering

Construction Cost Estimating

Construction Management

Construction Specifications

Contracting

Electrical Engineering

Elevator and Conveying Systems

Energy Management

Environmental

Ergonomics

Facilities Maintenance

Failure Analysis

Fire Protection Systems

Forced Entry Ballistic Material

Geotechnical

Glazing Systems

Grounding and Bonding

Historic Preservation/Conservation

HVAC

Hydraulics and Water Resources

Indoor Air Quality

Interior Design

Mechanical Engineering

Plumbing Engineering

Power Quality

Project Management

Real Property Management

Reliability Centered Maintenance

Roofing Systems

Seismic

Serviceability

Site Development/Site Planning

Space Planning

Specialized Computer Software (e.g. AutoCAD, Primavera, PageMaker)

Structural Engineering

Systems Furniture

Telecommunications Systems

Urban Planning/Master Planning

Utilities

Value Engineering

Training Resources

The following is a list of professional organizations and private vendors that provide training courses, workshops, conferences and/or publications of interest to employees in this occupational family. The list is not meant to be all-inclusive nor an endorsement of any of the vendors.

We encourage you to browse the websites below and take advantage of the opportunities they provide to develop new skills or enhance current skills.

See also: Technical Training Areas

Acronym	Organization	Website
AACE	Association for the Advancement of Cost Engineering	www.aacei.org
ACI	American Concrete Institute	www.aci-int.org
AEE	Association of Energy Engineers	www.aeecenter.org
AFCEA/PDC	Armed Forces Communications and Electronics Association	www.afcea.org
AIA	American Institute of Architects	www.aia.org
AIPTD	American Institute for Professional Training and Development	www.aiptd.org
AISC	American Institute of Steel Construction	www.aisc.org
AISI	American Iron and Steel Institute	www.steel.org
ALMC	U.S. Army Management Logistics College	www.almc.army.mil

Acronym	Organization	Website
ANSI	American National Standards Institute	www.ansi.org
ARI	Air Conditioning and Refrigeration Institute	www.ari.org
ASCE	American Society of Civil Engineers	www.asce.org
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers	www.ashrae.org
ASID	American Society of Interior Designers	www.asid.org
ASLA	American Society of Landscape Architects	www.asla.org
ASME	American Society of Mechanical Engineers	www.asme.org
ASPE	American Society of Plumbing Engineers	www.aspe.org
ASSE	American Society of Safety Engineers	www.asse.org
ASSE	American Society of Sanitary Engineering	www.asse-plumbing.org
ASTM	American Society for Testing and Materials	www.astm.org

Acronym	Organization	Website
AWS	American Welding Society	www.aws.org
CRSI	Concrete Reinforcing Steel Institute	www.crsi.org
CSI	Construction Specification Institute	www.csinet.org
DAU	Defense Acquisition University	www.dau.mil
DBIA	Design-Build Institute of America	www.dbia.org
ESI	ESI International	www.esi-intl.com
FFC	Federal Facilities Council	www.nationalacademies.org
GBA	Green Building Alliance	www.gbapgh.org
HI	Hydraulic Institute	www.pumps.org
HI	Hydroics Institute	www.gamanet.org
ICBO	International Building Code Organization	www.icbo.org
IEEE	Institute of Electrical and Electronic Engineers	www.ieee.org
IIDA	International Interior Design Association	www.iida.org
IIE	Institute of Industrial Engineers	www.iienet.org

Acronym	Organization	Website
MCAA	Mechanical Contractors Association of America	www.mcaa.org
MCI	Management Concepts, Inc	www.managementconcepts.com
NAESA	National Association of Elevator Safety Authorities	
NCIDQ	National Council on Interior Design Qualifications	www.ncidq.org
NCMA	National Concrete Masonry Association	www.ncma.org
NECA	National Electrical Contractors Association	www.necanet.org
NEI	National Elevator Industry	www.neii.org
NEMA	National Electrical Manufacturers Association	www.nema.org
NETA	International Electrical Testing Association	www.netaworld.org
NFPA	National Fire Protection Association	www.nfpa.org
NRCA	National Roofing Contractors Association	www.nrca.net
NPCA	National Paint and Coatings Association	www.paint.org

Acronym	Organization	Website
OSHA	U.S. Occupational Safety and Health Administration	www.osha.gov
PDI	Plumbing and Drainage Institute	www.pdionline.org
PMI	Project Management Institute	www.pmi.org
SAME	Society of American Military Engineers	www.same.org
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association	www.smacna.org
USACE	U.S. Army Corps of Engineers Professional Development Support Center	pdsc.usace.army.mil
UL	Underwriters Laboratories	www.ul.com
USDA	Graduate School U.S. Department of Agriculture	www.grad.usda.gov
USGBC	U.S. Green Building Council	www.usgbc.org